Fig. 1a

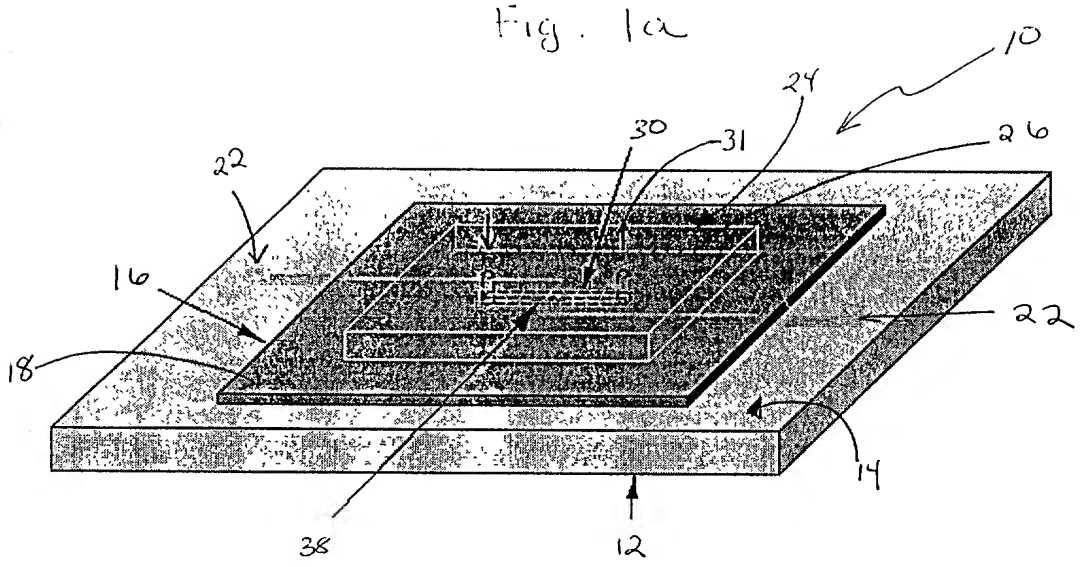
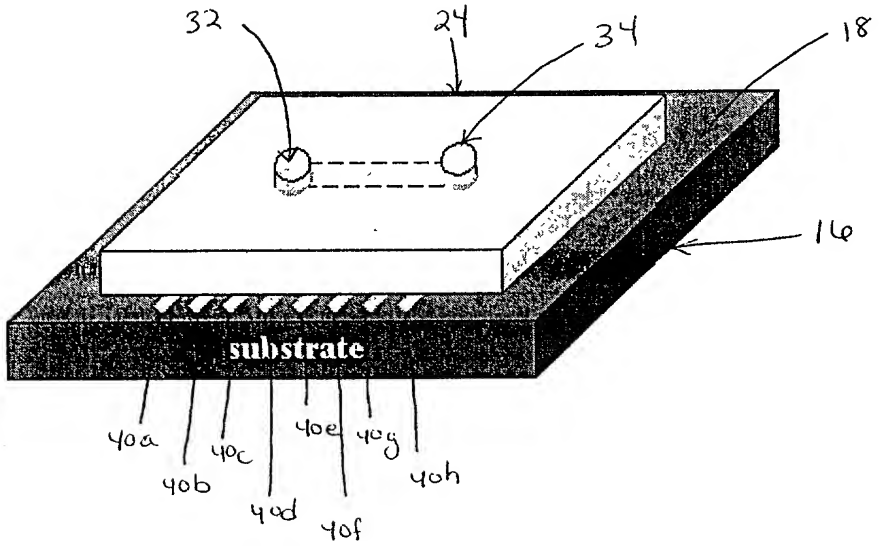

10
24
30
31
26
22
16
18
22
14
38
12

Fig 1b


32
24
34
18
16
substrate
40a
40b
40c
40d
40e
40f
40g
40h

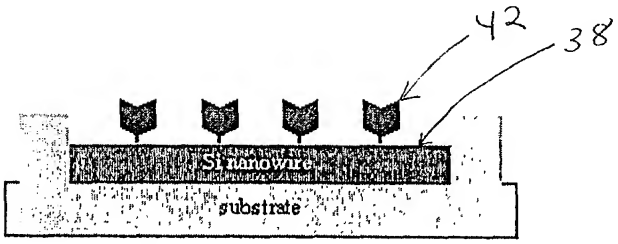


Figure 2a

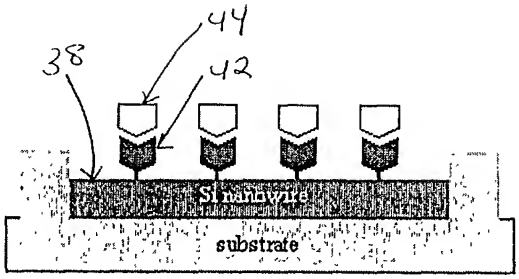


Figure 2b

Fig. 3a

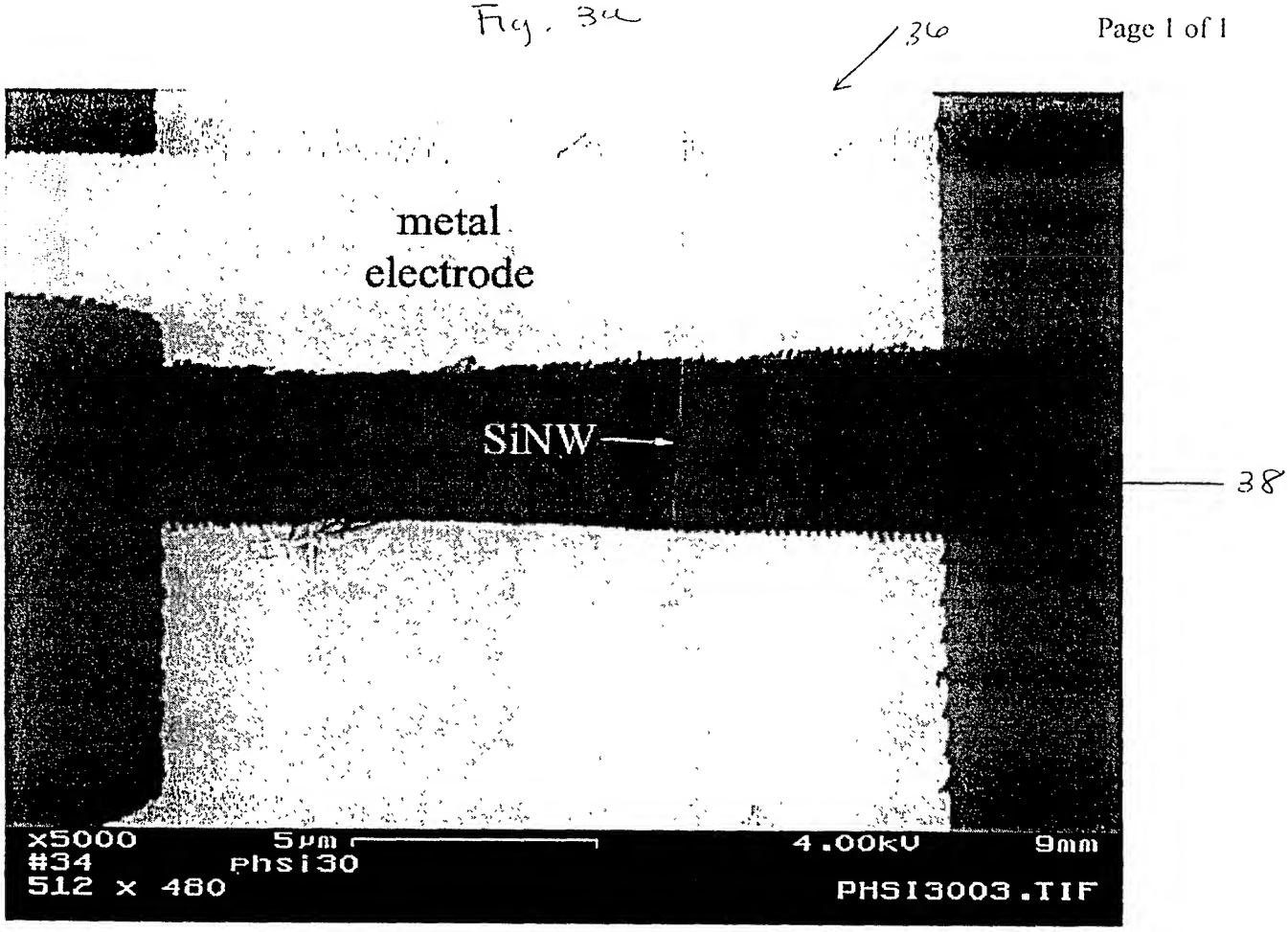
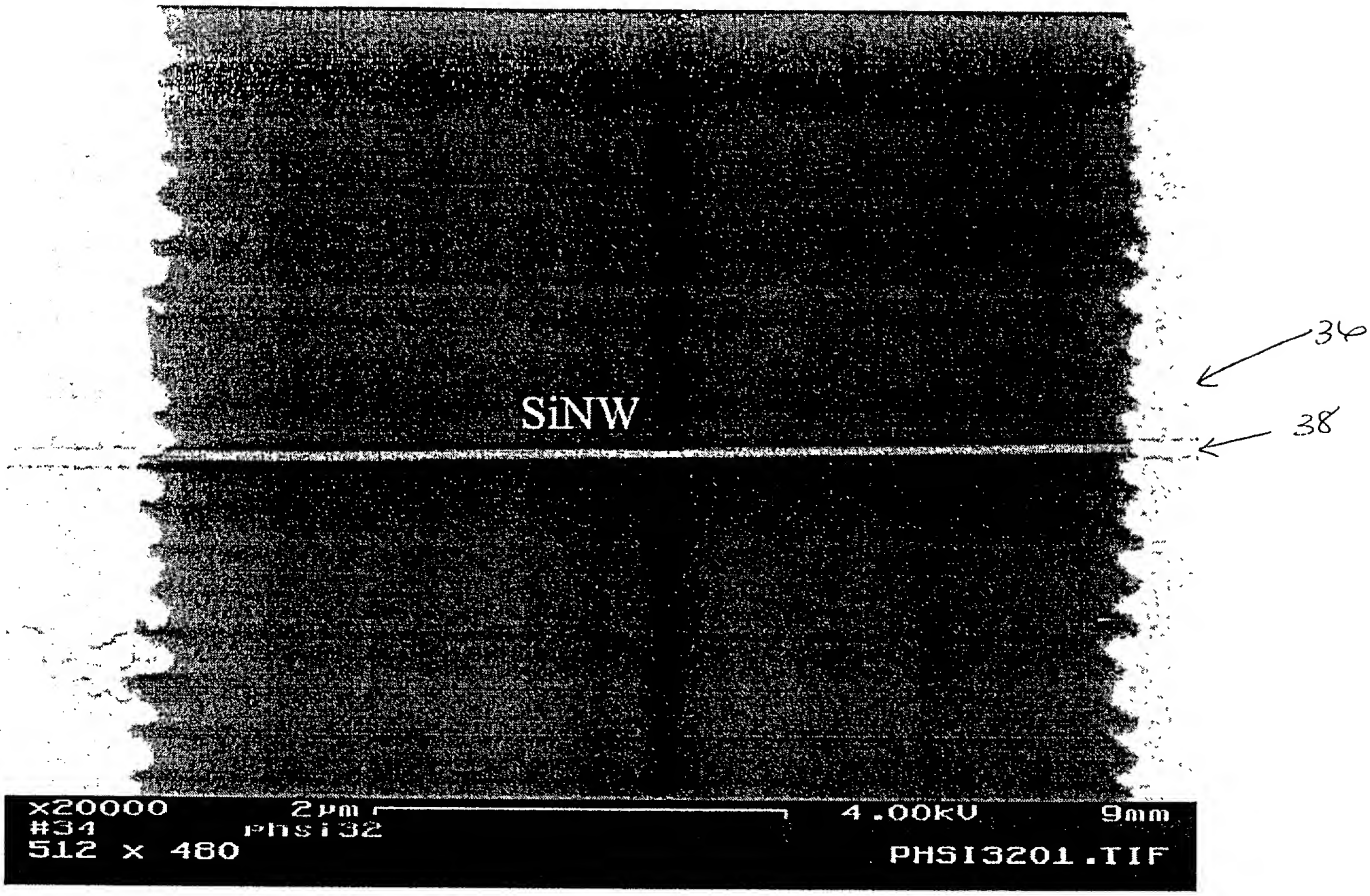


Fig 3b


SiNW
36
38
x20000 2μm 4.00kV 9mm
#31 PHSI32
512 x 480 PHSI3201.TIF

Docket No.: H0498/7164
Title: NANOSENSORS
Inventor: Charles Lieber et al.

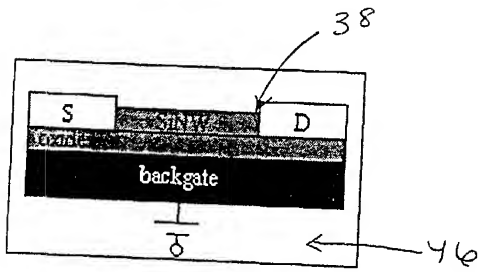
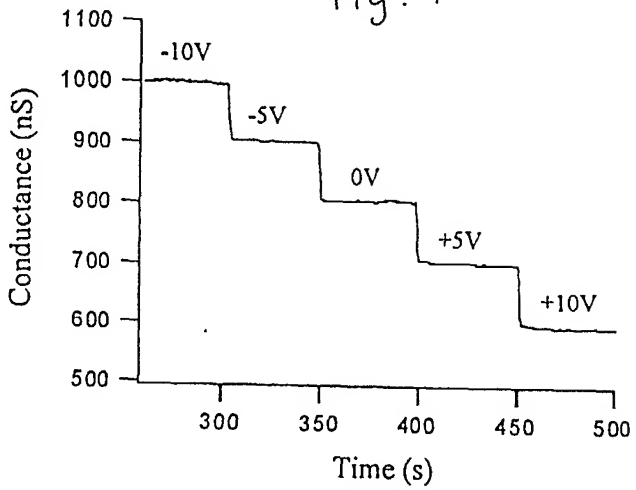


Figure 4a

Fig. 4b



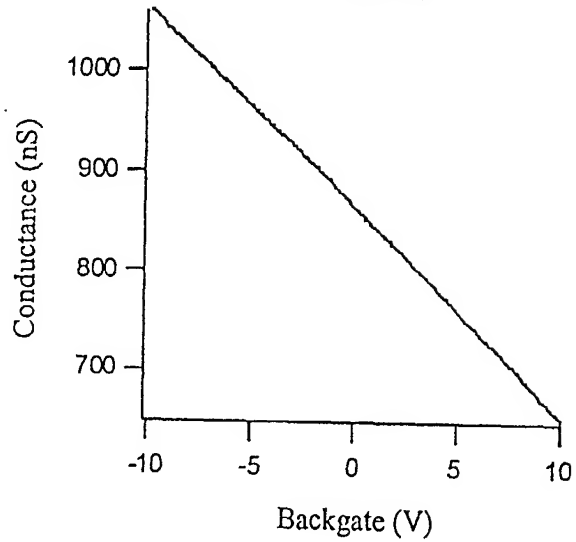


Fig 4c

FIG. 5a

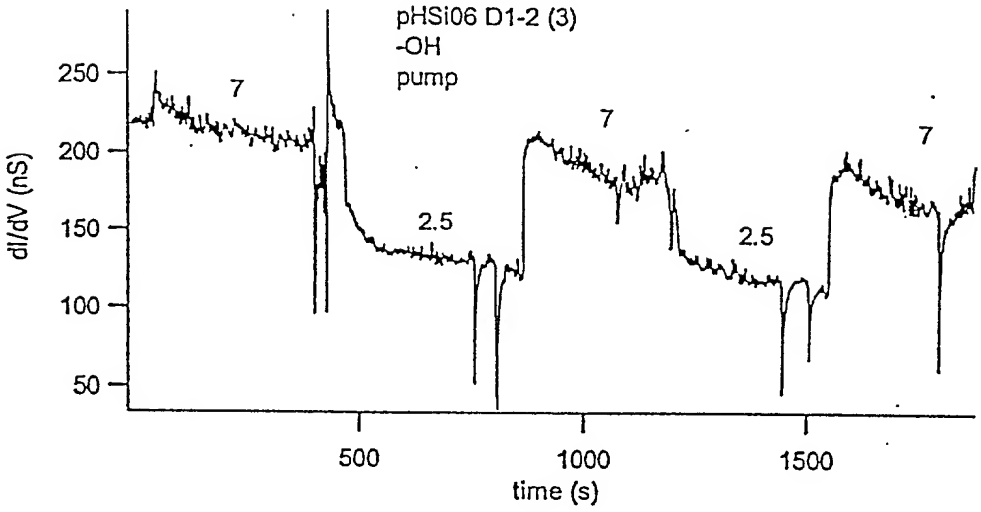

pHSi06 D1-2 (3)
-OH
pump
dI/dV (nS)
250
200
150
100
50
7
2.5
7
2.5
7
500
1000
1500
time (s)

FIG. 5b

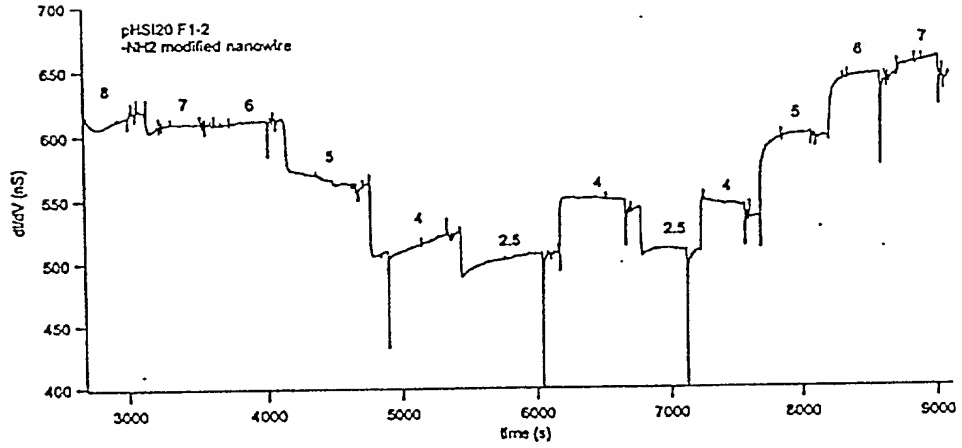
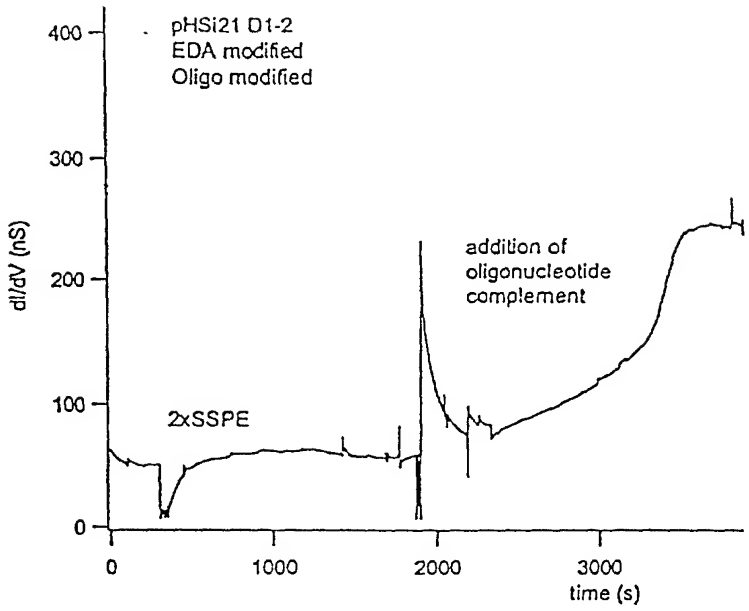

pHSI20 F1-2
-NH2 modified nanowire
dI/dV (nS)
700
650
600
550
500
450
400
8
7
6
5
4
2.5
4
2.5
4
5
6
7
3000
4000
5000
6000
7000
8000
9000
time (s)

FIG. 6


pHSi21 D1-2
EDA modified
Oligo modified
addition of
oligonucleotide
complement
2xSSPE
dI/dV (nS)
400
300
200
100
0
0
1000
2000
3000
time (s)

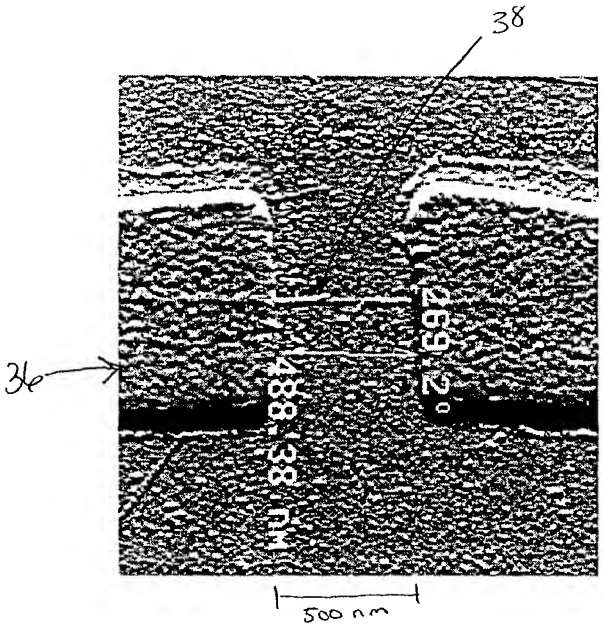

38
36
500 nm

Fig. 7

FIG. 8a

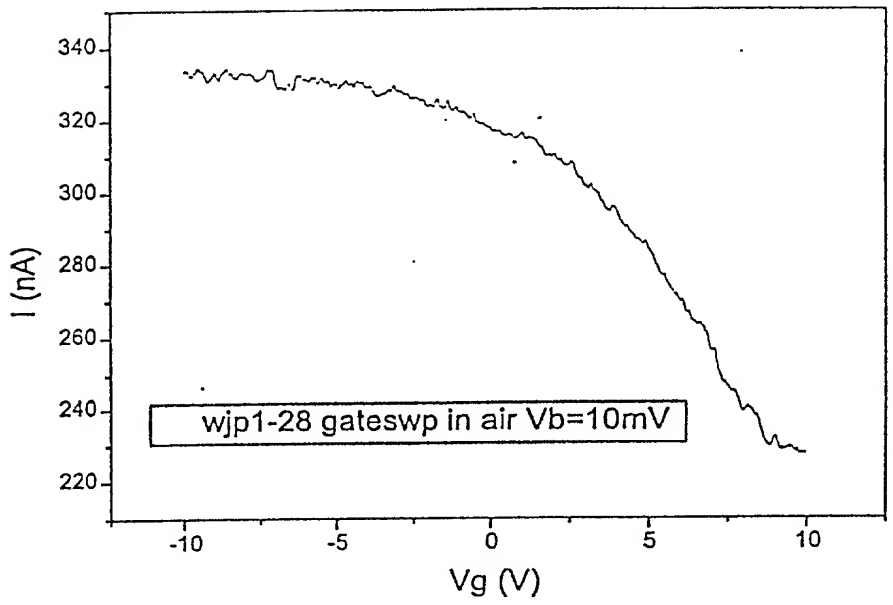


FIG. 8b

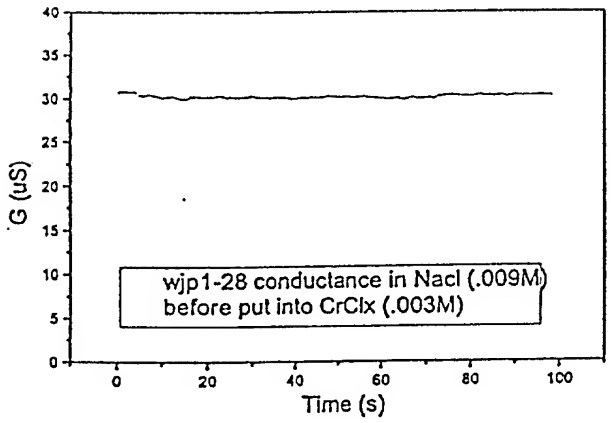
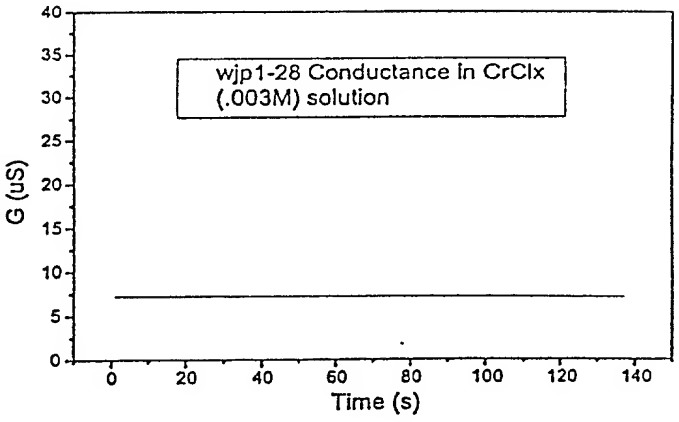


FIG. 8c



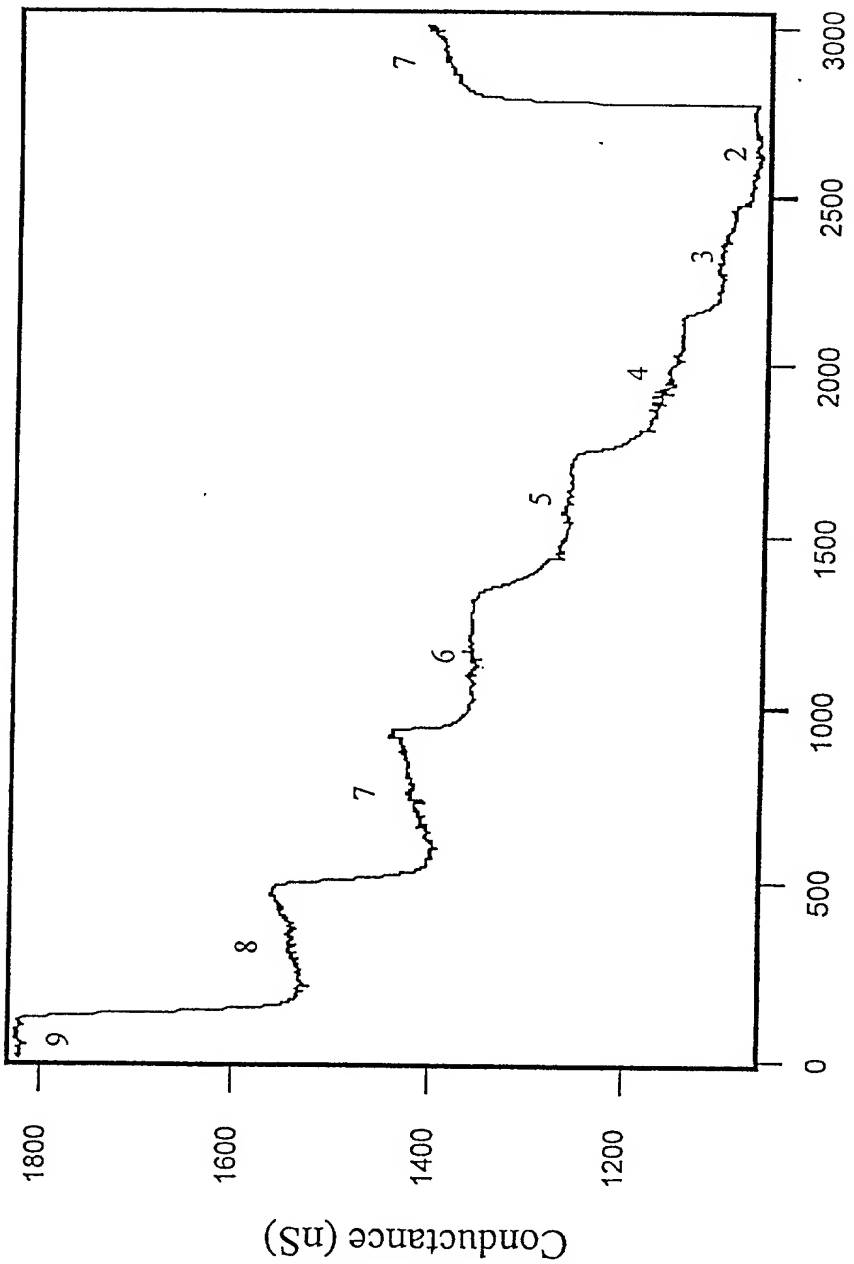
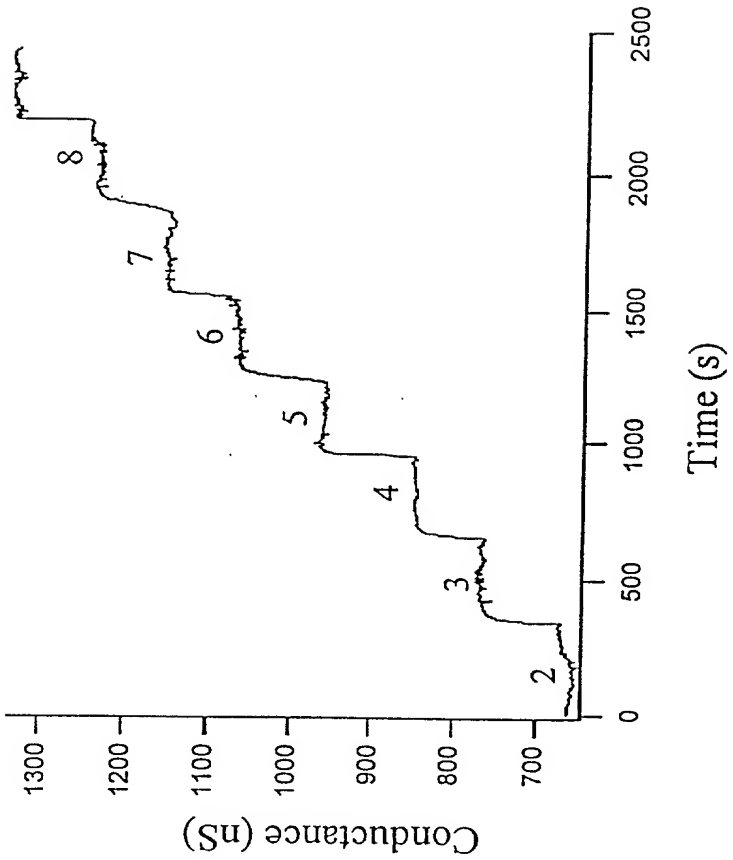

Conductance (nS)
1800
1600
1400
1200
0
500
1000
1500
2000
2500
3000
Time (s)
9
8
7
6
5
4
3
2
7

Fig 9A

Electronic Acknowledgement

Fig 9b



Attorney Docket

Fig. 9c

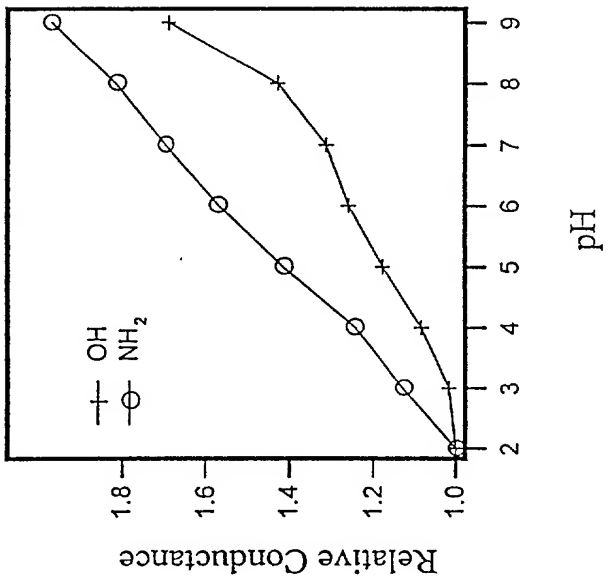


Fig. 10a

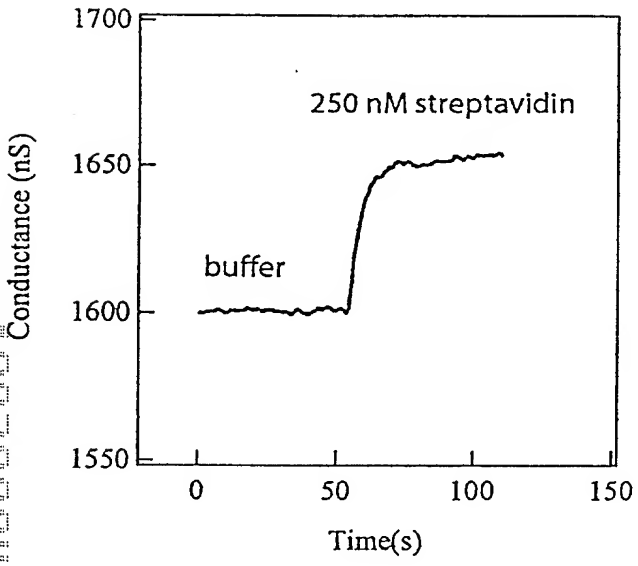


Fig. 10b.

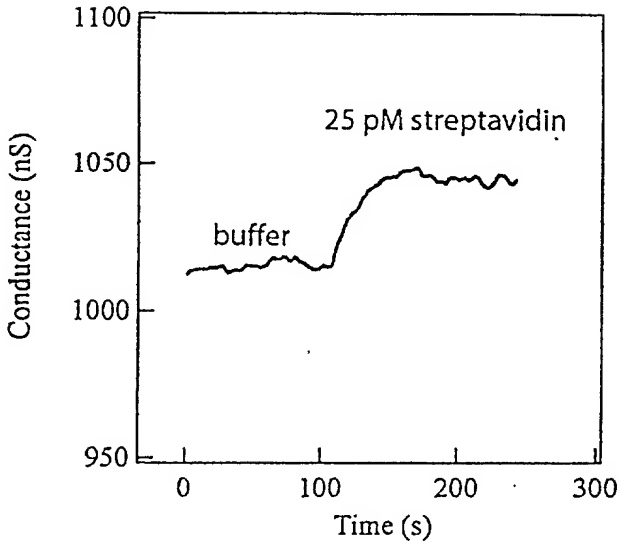


Fig 10c

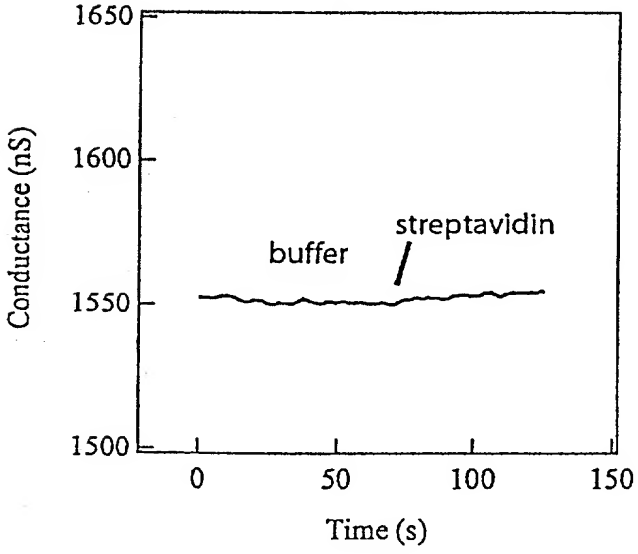
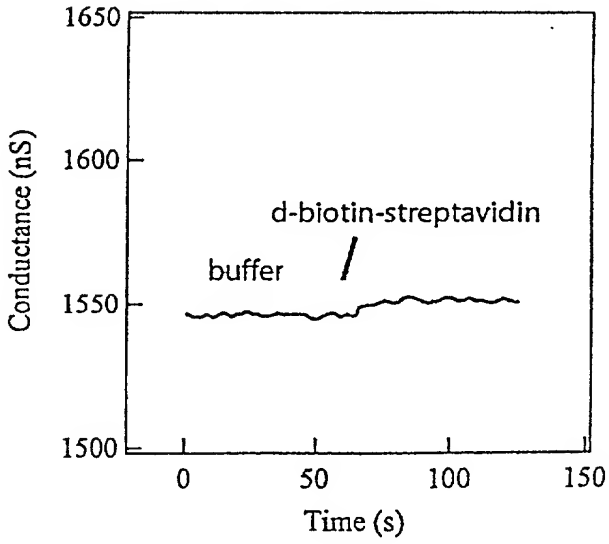


Fig. 10d



Patent Application

Fig 10e

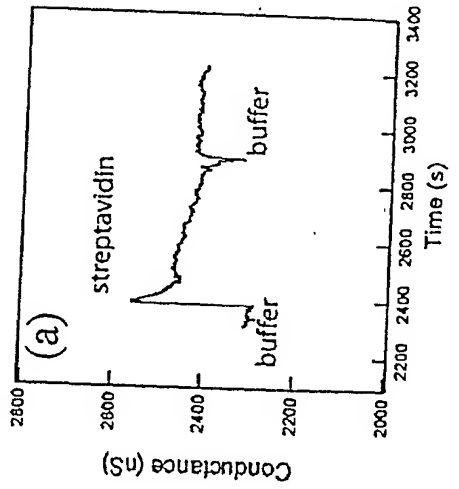


Fig 10f

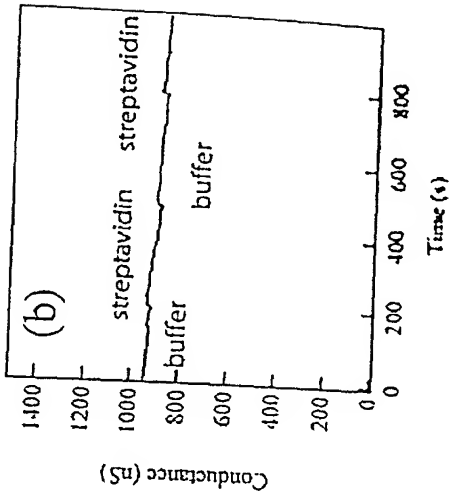


Fig 11a

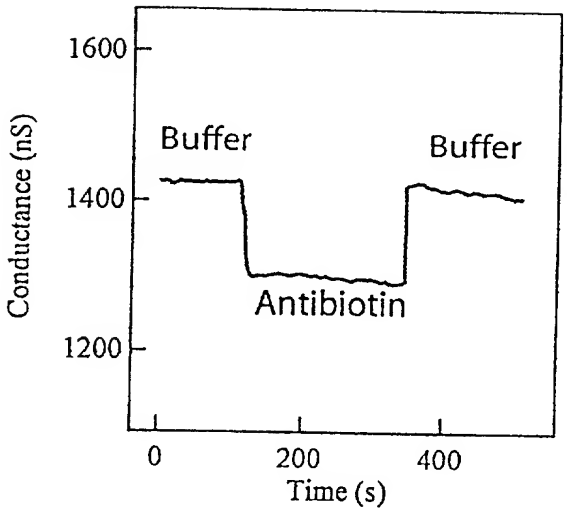


Fig 11b

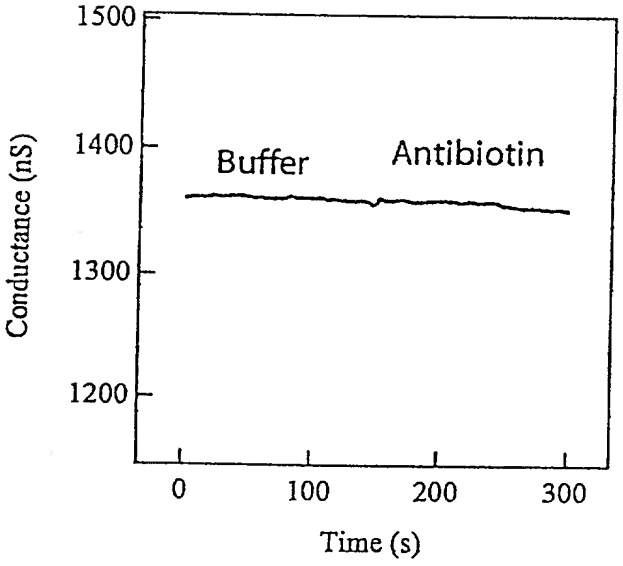


Fig 11c

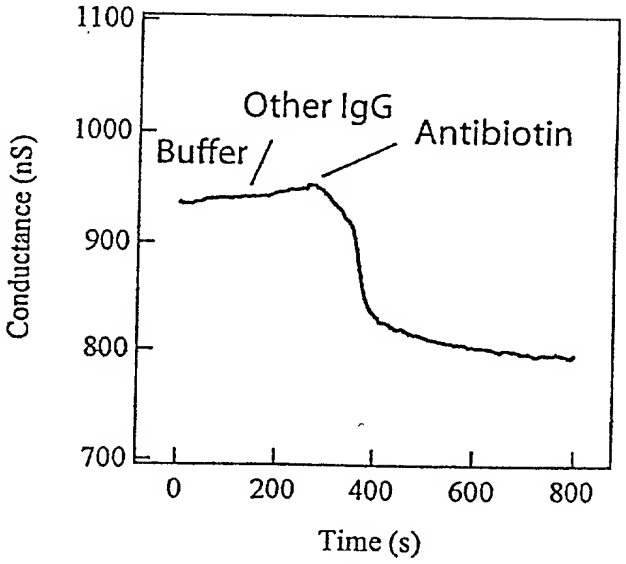


Fig 12a

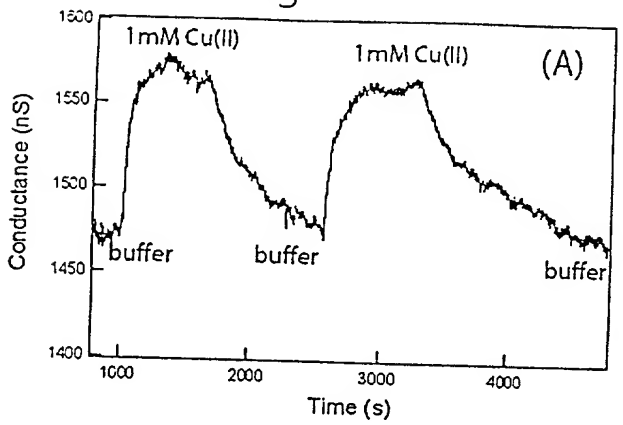


Fig 12b

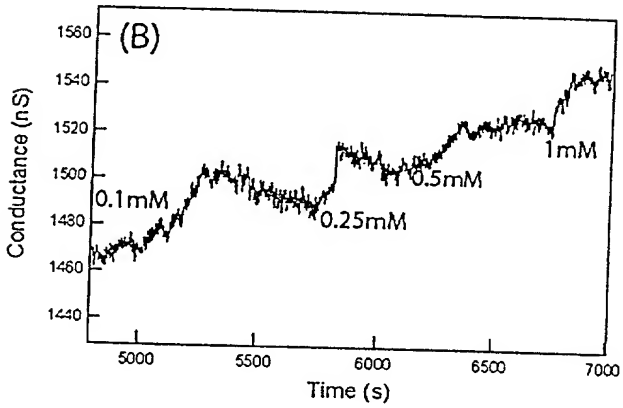


Fig 12c

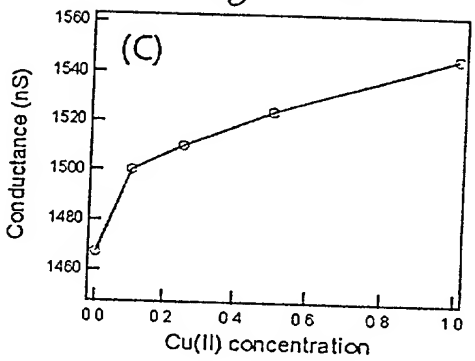
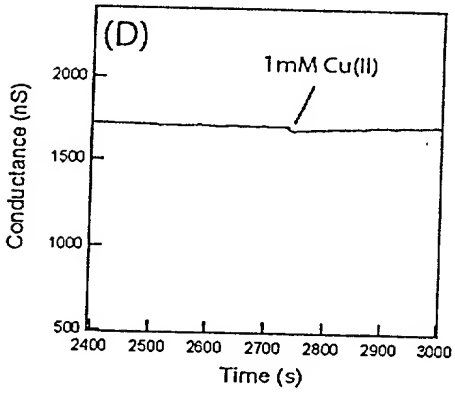


Fig 12d



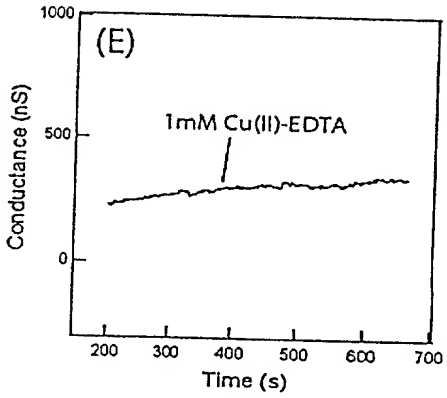


Fig 12e

10/15/2004 4:00:00 PM

Fig 13a

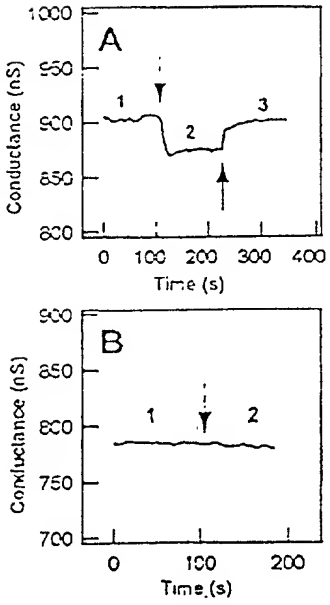


Fig 13b

Docket No.: H0498/7164
Title: NANOSENSORS
Inventor: Charles Lieber et al.

Sensitivity dependent on doping and size of nanowires

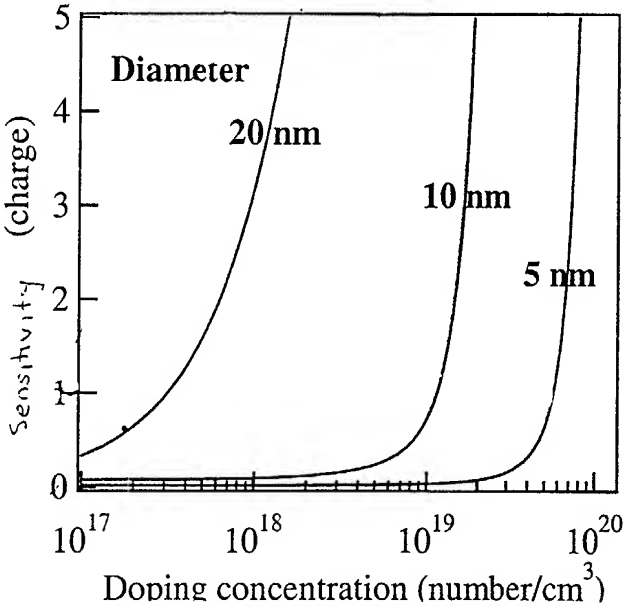


Fig 14a

Threshold doping density for single charge detection

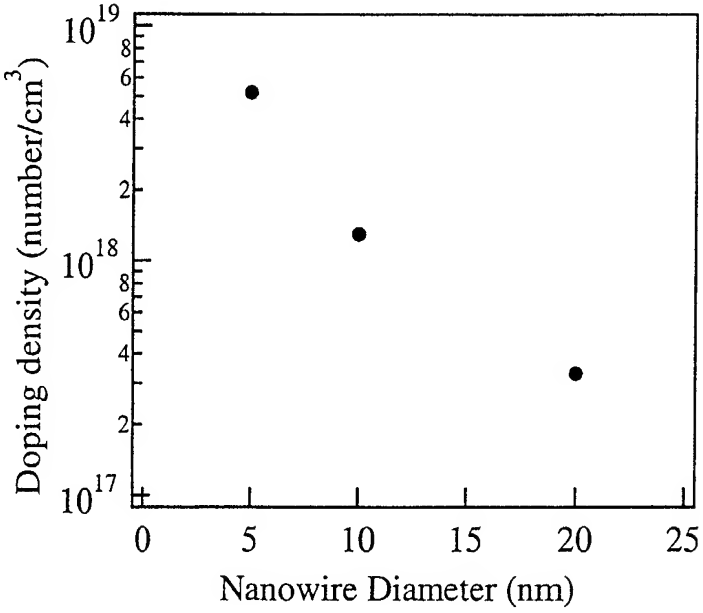


Fig 14b

Docket No.: H0498/7164
Title: NANOSENSORS
Inventor: Charles Lieber et al.

InP pH Sensor

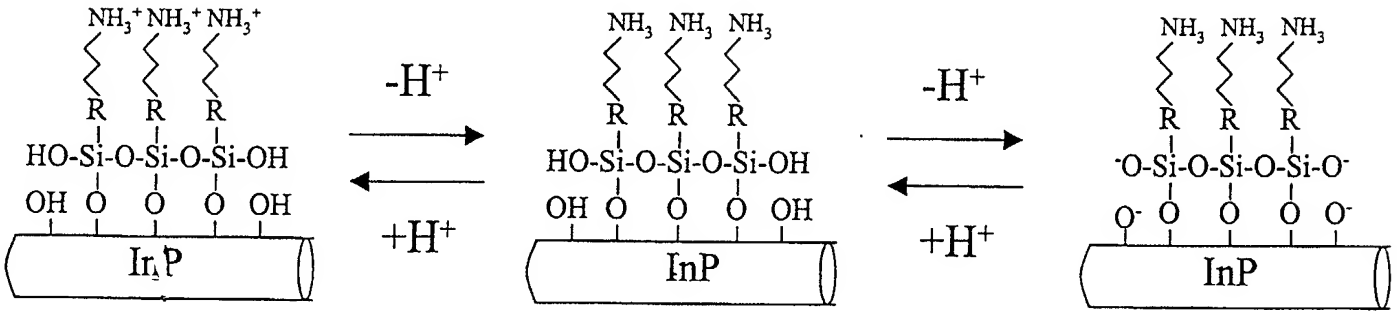


Fig 15a

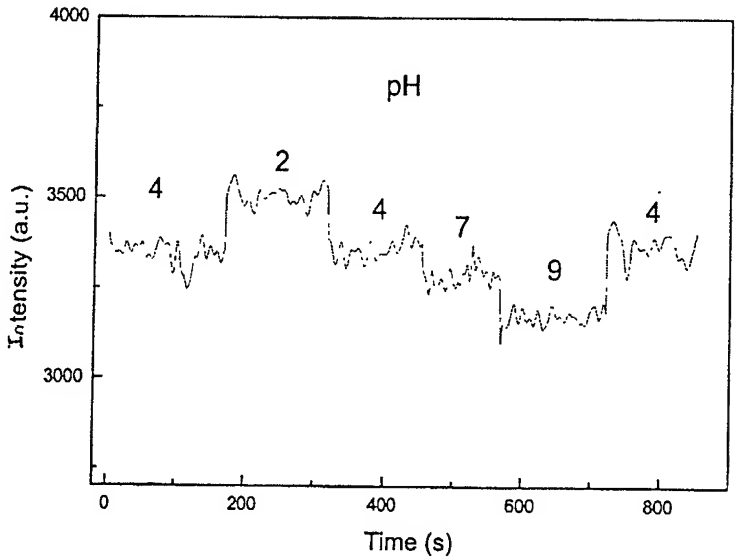


Fig 15b

Fig. 16a

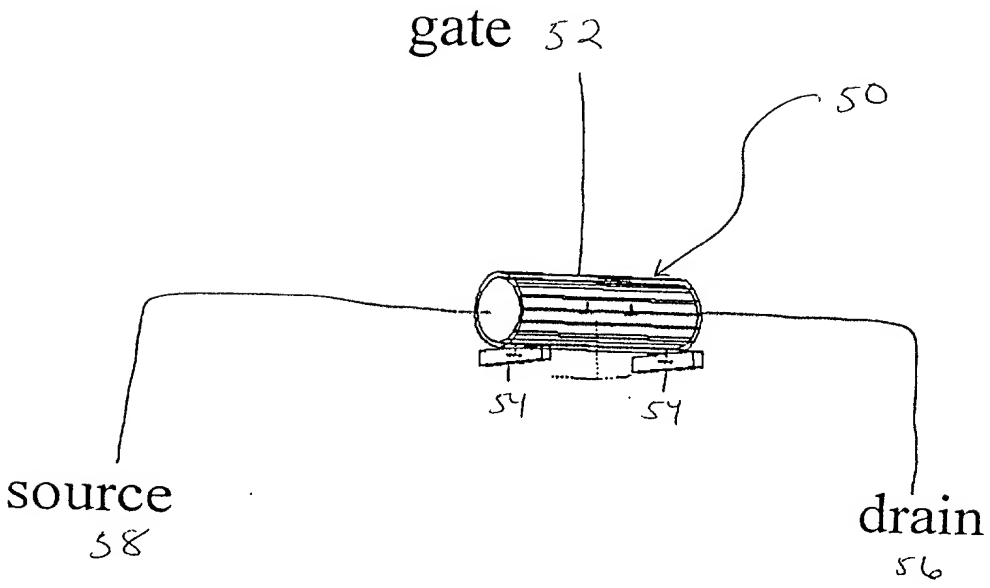


Fig. 16 b

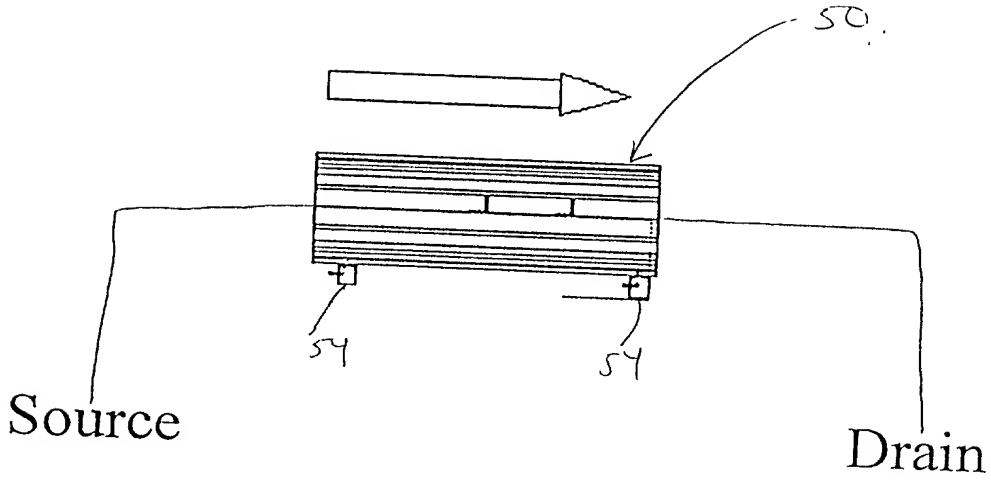


Fig. 16 c

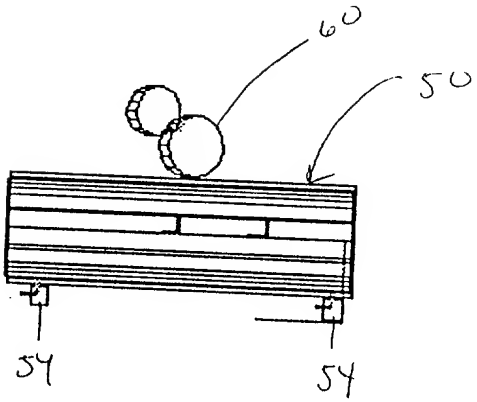
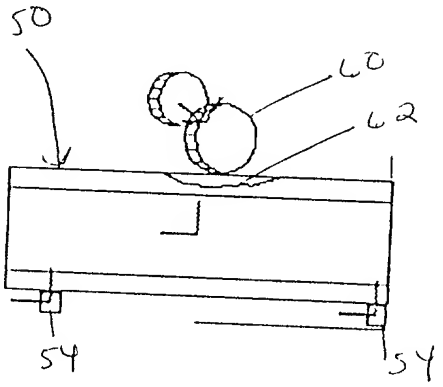



Fig. 16 d